

What Is Claimed Is:

- 1 1. A method of simulating the operation of a spacecraft
2 comprising the steps of:
3 requesting a connection to one of a plurality of simulated ground
4 stations;
5 generating a range server name;
6 in response to the range server name, generating server location
7 parameters;
8 instantiating a range server dedicated to a single ground station;
9 calculating range data for each of the plurality of simulated
10 ground stations; and,
11 providing the range data for one of the plurality of simulated
12 ground stations.
- 1 2. A method as recited in claim 1 wherein the step of
2 requesting comprises the step of requesting a connection to a simulated ground
3 station from a spacecraft status and control client.
- 1 3. A method as recited in claim 1 wherein the step of having
2 a common IP address for the plurality of simulated ground stations while
3 providing a unique port address for each simulated ground station.
- 1 4. A method as recited in claim 1 wherein the step of
2 requesting comprises requesting a connection to multiple ground stations,
3 wherein each ground station has a unique port address and common IP address.
- 1 5. A method as recited in claim 4 wherein the step of
2 generating a range server comprises generating the range server name in

3 response to the unique port address and using that name to instantiate a range
4 server specific to a unique ground stations.

1 6. A method as recited in claim 1 further comprising the
2 step of providing tracking information for the one of the plurality of simulated
3 ground stations.

1 7. A method of simulating the operation of a spacecraft
2 comprising the steps of:
3 generating range, attitude and elevation data for a plurality of
4 ground stations simultaneously;
5 identifying a desired ground station from the plurality of ground
6 stations; and,
7 providing range data for the desired ground station to a real time
8 client.

1 8. A method as recited in claim 7 wherein the step of
2 identifying comprises the step of generating a range server name and generating
3 a tracking server name.

1 9. A method as recited in claim 7 wherein the step of
2 identifying further comprises in response to the step of generating a range server
3 name and tracking server name, generating server location parameters.

1 10. A method as recited in claim 7 further comprising the
2 step of generating a connection to one of the plurality of simulated ground
3 stations.

1 11. A method as recited in claim 7 wherein the step of
2 requesting comprises the step of requesting a connection to the multiple ground
3 stations, wherein each ground station has a unique port address.

1 12. A method as recited in claim 8 wherein the step of
2 generating a range server name comprises generating the range server name in
3 response to the unique port address and wherein the step of generating a
4 tracking server name comprises generating the tracking server name in response
5 to the unique port address.

1 13. A spacecraft emulation system comprising:
2 a spacecraft status and control client;
3 an interface coupled to the spacecraft status and control client for
4 generating identification information for a desired ground station;
5 a range data generator for generating range data for a plurality of
6 ground stations; and,
7 a range server coupled to the range data generator and spacecraft
8 status and control client having the range data for said plurality of ground
9 stations therein, said range server providing range data to said spacecraft status
10 and control client.

1 14. A spacecraft emulation system as recited in claim 13
2 further comprising a tracking server coupled elevation and attitude data
3 generator and the spacecraft status and control client, the tracking server
4 providing elevation and azimuth data to said spacecraft status and control client.

1 15. A spacecraft emulation system as recited in claim 13
2 wherein said interface, range data generator, range server, tracking data
3 generator and tracking server are coupled within a single unit.